I CLAIM:

1. A construction method of the spreading spectrum multiple access codes with zero correlation window, wherein the method includes the following steps:

selecting a pair of basically orthogonal complementary code group (C1, S1), (C2, S2) with each code length as N chips, in which the acylic auto-correlation and cross-correlation functions of code C and code S oppose each other but also complement each other except at the origin, the values of auto-correlation and cross-correlation functions after summarization are zero except at the origin; and

based on the actually required maximum number of subscriber accesses, spreading the code length and code number of the basically orthogonal complementary code group in a tree structure, the values of auto-correlation functions of the spreaded code group are zero except at the origin, while the cross-correlation functions form a zero correlation window about the origin, with the window size greater than or equal to 2N-1.

2. The construction method of the spreading spectrum multiple access codes according to the claim 1, wherein the size of the zero correlation window is ≥ the maximum relative time delay inside each access code of the system or between them, the maximum relative time delay is dependent on the summation of the

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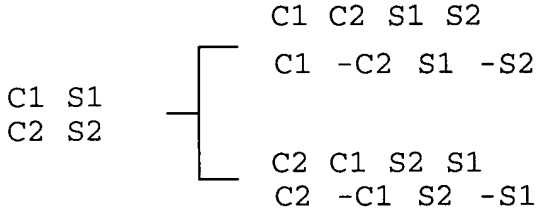
maximum time dispersion of the channel and the timing error of the system.

3. The construction method of the spreading spectrum multiple access codes according to the claim 1, wherein the above code C and code S are transmitted respectively by using two orthogonal and fading synchronously transmission channels, and carrying the same data bits when modulation, while the outputs are added together after de-spreading and demodulation.

4. The construction method of the spreading spectrum multiple access codes according to the claim 1, wherein the spreading the code length and code number of the basically orthogonal complementary code group in a tree structure refers to:

If (C1, S1), (C2, S2) is a pair of basically orthogonal complementary code group with code length N, the two pairs of orthogonal complementary code group with each code length 2N can be generated in the following way:



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Wherein the values of auto-correlation functions of the orthogonal complementary code group formed on upper and lower trees after spread will be zero everywhere except at the origin, while the cross-correlation functions will form a Zero Correlation Window around the origin with the size of the window greater than or equal to 2N-1.

5. The construction method of the spreading spectrum multiple access codes according to the claim 4, wherein the above spread can be kept going on in accordance with the tree structure so as to generate 2^{n+1}orthogonal complementary code groups with the code length $N2^n$ and the width of the zero correlation window greater than or equal to 2N-1, in which n = 0,1,2, … is the number of spread times.

6. The construction method of the spreading spectrum multiple access codes according to the claim 4 or 5, wherein equivalent transformation can be applied to the resultant orthogonal complementary code group.

7. The construction method of the spreading spectrum multiple access codes according to the claim 6, wherein the equivalent transformation can be swap of the forward and backward position of the resultant code group.

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8. The construction method of the spreading spectrum multiple access codes according to the claim 6, wherein the equivalent transformation can be swap of the up and down position of the resultant code group.

9. The construction method of the spreading spectrum multiple access codes according to the claim 6, wherein the equivalent transformation can be negation of code order of each code.

10. The construction method of the spreading spectrum multiple access codes according to the claim 6, wherein the equivalent transformation can be interlacement of polarity of each code bit.

11. The construction method of the spreading spectrum multiple access codes according to the claim 6, wherein the equivalent transformation can be rotation of each code bit in complex plane in a sequence or without sequence.

12. The construction method of the spreading spectrum multiple access codes according to the claim 6, wherein the transformation can be any equivalent transformation that is proven in mathematics.

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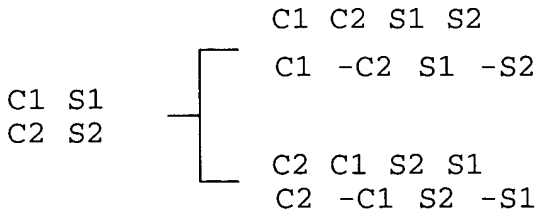
13. The construction method of the spreading spectrum multiple access codes according to the claim 1, wherein the pair of basically orthogonal complementary code group (C1, S1), (C2, S2) refers to that the auto-correlation function and cross-correlation function is respectively the summation of acylic auto-correlation with cross-correlation functions between codes C, and the summation of acylic auto-correlation with cross-correlation functions between codes S.

14. The construction method of the spreading spectrum multiple access codes according to the claim 13, wherein the code length and the width of the zero correlation window of the pair of basically orthogonal complementary code group can be spread in the following way:



Wherein if each code length of the pair of basically orthogonal complementary code group (C1, S1), (C2, S2) is N, and the width of the zero correlation window is L, then each

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code length of the spread pair of basically orthogonal complementary code group will be 2N, while the width of the zero correlation window will be 2L+1.

15. The construction method of the spreading spectrum multiple access codes according to the claim 14, wherein when N = 2, the pair of basically orthogonal complementary code group will be:

(++ , +-)

(-+ , --)

Wherein "+" means +1 and "-" -1, while the width of the zero correlation window will be 3.

16. The construction method of the spreading spectrum multiple access codes according to the claim 14 or 15, wherein the above spread can be kept going on in accordance with the tree structure so as to generate 2^n pairs of orthogonal complementary code groups with the code length $N2^n$ and the width

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of the zero correlation window as $2^nL+2^{n-1}+2^{n-2}+2^{n-3}+\ldots+2^1+1$, in which n = 0,1,2, … is the number of spread times.

17. The construction method of the spreading spectrum multiple access codes according to the claim 16, wherein the equivalent transformation can be applied to the resultant basically orthogonal complementary code group.

18. The construction method of the spreading spectrum multiple access codes according to the claim 17, wherein the equivalent transformation can be swap of the forward and backward position of the resultant code group.

19. The construction method of the spreading spectrum multiple access codes according to the claim 17, wherein the equivalent transformation can be swap of the up and down position of the resultant code group.

20. The construction method of the spreading spectrum multiple access codes according to the claim 17, wherein the equivalent transformation can be negation of code order of each code.

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21. The construction method of the spreading spectrum multiple access codes according to the claim 17, wherein the equivalent transformation can be interlacement of polarity of each code bit.

22. The construction method of the spreading spectrum multiple access codes according to the claim 17, wherein the equivalent transformation can be rotation of each code bit in complex plane in a sequence or without sequence.

23. The construction method of the spreading spectrum multiple access codes according to the claim 17, wherein the transformation can be any equivalent transformation that is proven in Mathematics.

24. The construction method of the spreading spectrum multiple access codes according to the claim 3, wherein the orthogonal and fading synchronously transmission channel refers to the orthogonal polarized wave.

25. The construction method of the spreading spectrum multiple access codes according to the claim 3, wherein the orthogonal and fading synchronously transmission channel is the time slots without overlap to each other.

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26. The construction method of the spreading spectrum multiple access codes according to the claim 1, wherein one code or multiple access codes can be allocated based on the needs of the different data rate and services of each subscriber to actualize the different quality of priority level services.

27. The construction method of the spreading spectrum multiple access codes according to the claim 1, wherein the required spreading spectrum access codes can be adaptively generated based on the zero correlation window required by the different propagation modes, different number of subscribers, and the needs of different data rate as well as services, so that there are no inter-signal interference (ISI) and multi access interference (MAI) in the corresponding spreading spectrum CDMA system.

28. The construction method of the spreading spectrum multiple access codes according to the claim 1, wherein the resultant multiple access codes by the equivalent transformation can be used to meet the needs of network configuration, handoff and enhancement of system capacity, etc in cellular mobile or fixed point to multi points wireless telecommunications system.

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29. The construction method of the spreading spectrum multiple access codes according to the claim 1, wherein coding can be made, as one of the complex codes, by using complex codes.

30. The construction method of the spreading spectrum multiple access codes according to the claim 1, wherein it can be applied to any TD/CDMA, FD/CDMA, WD/CDMA, SD/CDMA or CDMA communications system.